complications treatment costs were the main cost driver, accounting for 67% and 77% of total direct costs of the insulin detemir therapy and NPH insulin therapy respectively. Due to a better reduction from baseline of HbA_{1c} the development and progression of complications was delayed, and the cumulative incidence of diabetes complications decreased for insulin detemir plus OADs therapy versus NPH insulin plus OADs therapy. **CONCLUSIONS:** The results of this study demonstrate that insulin detemir is a very cost-effective option for the treatment of type 2 diabetes compared to NPH insulin in Portugal.

PDB46

COST-EFFECTIVENESS OF ANGIOTENSIN CONVERTING ENZYME INHIBITORS FOR THE PREVENTION OF DIABETIC NEPHROPATHY IN THE NETHERLANDS - A MARKOV MODEL

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OBJECTIVES: Type 2 diabetes is the main cause of end-stage renal disease (ESRD) in Europe and the USA. Angiotensin-converting enzyme (ACE) inhibitors slow down the progression of renal disease and therefore provide a renal-protective effect. The aim of our study was to assess the most cost-effective time to start an ACE inhibitor (or an angiotensin II receptor blocker (ARB) if coughing as a side effect occurs) in patients with newly diagnosed type 2 diabetes in the The Netherlands. **METHODS:** Three strategies were compared: treating all patients at the time of diagnosing type 2 diabetes, screening for microalbuminuria, and screening for macroalbuminuria. A lifetime Markov decision model with simulated 50-year-old patients with newly diagnosed diabetes mellitus was developed using published data on costs and health outcomes and simulating the progression of renal disease. A health insurance perspective was adopted. **RESULTS:** In the base-case analysis, the treat-all strategy is associated with the lowest costs and highest benefit and therefore dominates screening both for macroalbuminuria and microalbuminuria. A multivariate sensitivity analysis shows that the probability of savings is 70%. Treating all patients with an ARB would also be a dominant strategy despite the fact that ARBs are a much more expensive alternative. **CONCLUSIONS:** Patients with type 2 diabetes should receive an ACE inhibitor immediately after diagnosis if they do not have contraindications. An ARB should be considered for those patients developing a dry cough under ACE inhibitor therapy. The potential for cost savings would be even larger if the prevention of cardiovascular events were considered.

PDB47

UNDERSTANDING THE IMPLICATIONS OF INCORPORATING THE UKPDS GLYCAEMIC LEGACY EFFECT INTO EVALUATING THE COST-EFFECTIVENESS OF TYPE 2 DIABETES THERAPIES

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OBJECTIVES: The UK Prospective Diabetes Study (UKPDS) reported a persistence in risk reduction of diabetes-related events associated with improved glycaemic control observed between intensive and conventional therapy groups beyond the intervention period. This has important implications for projecting short-term clinical trial results over long-term time horizons. The aim of this study was to reproduce the UKPDS legacy effect and assess the impact on long-term cost-effectiveness. **METHODS:** The Cardiff Type 2 Diabetes Model was initiated with cohort profiles consistent with reported intensive versus conventional control groups within UKPDS; initial HbA1c treatment effects were applied and modelled over time assuming two scenarios: a loss of antihyperglycaemia benefit at year 10 or maintenance of clinical benefit (the legacy effect). Under both scenarios, risk reductions and cost-effectiveness of sulphonylurea (SU) versus insulin were assessed over a 40-year time horizon using UK 2010 costs. Both costs and health benefits were discounted at 3.5%. **RESULTS:** The risk ratio (RR) of any diabetes-related end point predicted by the model was consistent with that reported by UKPDS when incorporating the legacy effect (RR of 0.90 versus 0.91 in the model and UKPDS, respectively). Ignoring the legacy effect resulted in a RR of 0.99 at year 30 and a cost per quality-adjusted life-year (QALY) of £162,400, compared with £22,565 when including the legacy effect. **CONCLUSIONS:** The legacy effect of intensive glucose-lowering strategies has important implications when assessing the cost-effectiveness of new therapies. Failure to include such a legacy effect, as seen in UKPDS, may result in new therapies for managing glycaemic control appearing less cost-effective than they actually are.

PDB48

SHORT-TERM COST-EFFECTIVENESS OF INSULIN DETEMIR VERSUS NPH INSULIN IN INSULIN-NAÏVE SUBJECTS WITH TYPE 2 DIABETES IN SWEDEN

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OBJECTIVES: To estimate short-term cost-effectiveness of insulin detemir versus Neutral Protamine Hagedorn (NPH) insulin based on incidence of self-treated hypoglycaemia and body-weight gain in insulin-naïve subjects with type 2 diabetes in Sweden. **METHODS:** A short-term (one year) cost-effectiveness model was developed in Microsoft Excel® 2003. Hypoglycaemia incidence rates were based on UKHSG data. Relative risk (RR) of hypoglycaemia, weight change and insulin doses were obtained from randomized clinical trial data. Resource use (health care contacts, blood glucose tests) and sick-leave following hypoglycaemia were estimated from survey data. Effectiveness was expressed as quality adjusted life-years (QALYs). Direct and indirect costs were in Swedish Kronor (SEK 1 ≈ €0.10, 2010 values) with unit costs from official sources. Probabilistic sensitivity analyses were performed. **RESULTS:** Treatment with detemir was associated with fewer self-treated hypoglycaemic events compared with NPH (RR: 0.47 [CI 0.25:0.88]) and lower weight gain (mean difference -0.91 kg [CI -1.53;-0.28]), leading to an average gain of 0.011 QALYs per year. Annual costs were SEK6,505 for detemir versus SEK5,008 for NPH with an incremental cost-effectiveness ratio (ICER) of SEK139,665 per QALY gained for detemir versus NPH from a societal perspective. From a health care perspective, annual costs were SEK5,809 for detemir and SEK3,527 for NPH with an ICER of SEK212,909 per QALY gained for detemir versus NPH. **CONCLUSIONS:** Insulin detemir can be considered cost-effective versus NPH insulin in insulin-naïve subjects with type 2 diabetes in Sweden already in the first year of treatment, both from a health care and a societal perspective, based on reductions in self-treated hypoglycemia and superior weight management. Given the non-significant differences in HbA1c control, results of the short-term analyses is not expected to deviate substantially if longer time horizons are applied. Higher pharmacy costs with insulin detemir should not be a barrier to therapy based on these findings.

PDB49

RESOURCE USE IN PATIENTS WITH TYPE 2 DIABETES (T2D) WHO INITIATED EXENATIDE BID (EXBID) OR STARTER INSULIN (INS) THERAPY: 6-MONTH DATA FROM CHOICE

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OBJECTIVES: This analysis of CHOICE presents resource use data from the six months pre and post initiation of adult patients' first injectable therapy for the treatment of T2D (ExBID or INS). CHOICE is an ongoing European 6 country prospective observational study. **METHODS:** Patient data are collected immediately before (baseline), and 3, 6, 12, 18 and 24 months after, initiation of injectable therapy. **RESULTS:** Important baseline differences between the ExBID and INS cohorts prevent direct comparison of outcome data. In the ExBID cohort (baseline n=1177; 6 months n=1073) 78.8% patients self-monitored their blood glucose (SMBG) at baseline; 81.6% at 6 months. Mean (SD) tests/week (past 4 weeks) were 9.28 (7.93) and 8.24 (6.41) respectively. Mean (SD) number of oral antihyperglycaemic medications used was 1.20 (0.75) at baseline and 1.42 (0.73) at 6 months. 93.4% patients had ≥1 contact with a health care professional (HCP) in 6 months before ExBID initiation (mean [SD] 7.75 [7.49] visits); 89.1% in 6 months post initiation (7.55 [7.41]). In the INS cohort (baseline n=1315; 6 months n=1235), 79.8% patients SMBG at baseline; 92.4% at 6 months. Mean (SD) tests/week were 9.91 (8.58) and 13.08 (8.46) respectively. Mean (SD) number of oral antihyperglycaemic medications used was 0.96 (0.76) at baseline and 0.98 (0.77) at 6 months. 93.8% patients had ≥1 contact with a HCP in 6 months before INS initiation (mean [SD] 8.45 [9.19] visits); 93.2% in 6 months post initiation (11.11 [16.75]). Mean doses of both ExBID and INS increased during the first 6 months post initiation. In both ExBID and INS cohorts, between-country variability was found. **CONCLUSIONS:** Mean resource utilisation increased following initiation of injectable therapy. Increases in mean test strip use/week (+32%) and mean number of contacts with HCPs (+31%) were observed in the INS cohort. Respective observations for ExBID cohort were -12.7% and -2.7%.

PDB50

REDUCTION IN COMORBIDITIES AND COST SAVINGS ASSOCIATED WITH BIOCHEMICAL CONTROL IN PATIENTS WITH CUSHING'S DISEASE: A LITERATURE-BASED ANALYSIS

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OBJECTIVES: Hypercortisolism in Cushing's Disease (CD) is associated with significant comorbidities, which improve and in some cases are reversed with biochemical control (BC). The purpose of this study was to capture data describing comorbidity reductions with BC and estimate the potential cost savings associated with reversal. **METHODS:** Comorbidity reductions with BC were identified through a comprehensive literature search using CD AND epidemiology, morbidity, complications, BC and treatment outcomes as search terms. Selected clinical studies detailed the relationship between comorbidity and BC in adults. In the cost analysis, comorbidities were selected if reported in patients achieving BC. Literature-based cost estimates were identified for CD-related comorbidities from the US payer perspective, and inflated to 2010 USD. Cost ranges were reported as the difference between expected comorbidity costs in uncontrolled and controlled patients. Sensitivity analyses were conducted to also include possibly reversible comorbidities. **RESULTS:** Patients with CD experience comorbidities ranging from back pain (86%) to psychosis (1.4%). Of 16 comorbidities identified in this study, seven were certainly reversible in CD patients achieving BC. Hypertension and diabetes mellitus were reversed in 44% and 40% of patients achieving BC at 1 year. Psychiatric illness and nephrolithiasis were resolved in 76% and ~50% of CD patients. In CD patients with reported impaired glucose tolerance and overweight/obesity, 60% and 37% of cases were resolved with BC. The application of cost estimates to prevalence of each reversible comorbidity before BC yielded a total per-patient cost of $19,239-$27,600. With BC, expected comorbidity costs ranged from $12,448-$18,312, representing a cost savings of $6,790-$9,288. Sensitivity analysis including possibly reversible comorbidities (like back pain, osteoporosis and vertebral fractures) produced estimated total cost savings of $10,571-$14,806 (incre-